

What is claimed is:

1. A method for correcting positioning errors of a mobile station positioning system in a Code Divisional  
5 Multiple Access (CDMA) communication system, the method comprises the steps of:

delaying a PN code transmitted to a mobile station (MS) from a specific base station transceiver subsystem (BTS) via a repeater, for a +64Chip period or a +64Chip+nChip period in a  
10 +64Chip delay element or a +64Chip+nChip delay element;

combining the PN code transmitted to the MS from the specific BTS via the repeater with a PN code created by delaying the PN code transmitted to the MS from the specific  
BTS via the repeater for the +64Chip period or the  
15 +64Chip+nChip period in a combiner, thereby transmitting the combined PN code to the MS;

receiving the PN code of the specific BTS and the PN code created by delaying the PN code of the specific BTS for the +64Chip period or the +64Chip+nChip period and transmitting  
20 the received PN codes to the mobile station positioning system via a mobile communication network, in the MS;

analyzing the PN codes received in the MS via a mobile positioning center (MPC) to determine whether the PN code of the specific BTS is transmitted to the MS via the repeater, in  
25 a position determination entity (PDE) of the mobile station positioning system; and

if it is determined that the PN code of the specific BTS is transmitted to the MS via the repeater, subtracting a delayed time due to a corresponding repeater itself previously stored in a database (DB) from a time at which the PN code of the specific BTS is received in the MS via the repeater, to calculate a distance between the specific BTS and the MS in the PDE.

2. The method of claim 1, wherein in the step of determining whether the PN code of the specific BTS is transmitted to the MS via the repeater, if the PN code created by delaying the PN code of the specific BTS for the +64Chip period or the +64Chip+nChip period is one of the PN codes received in the MS, it is determined that the PN code of the specific BTS is transmitted to the MS via the repeater.

3. The method of claim 1 or 2, wherein in the step of calculating the distance between the specific BTS and the MS, if the PN code created by delaying the PN code of the specific BTS for the +64Chip period among the PN codes received in the MS is received at the same time as the PN code of the specific BTS, the delayed time due to the corresponding repeater itself previously stored in the DB is subtracted in the PDE from the time at which the PN code of the specific BTS is received in the MS via the repeater, to calculate the distance between the specific BTS and the MS.

4. The method of claim 1 or 2, wherein in the step of calculating the distance between the specific BTS and the MS, if the PN code created by delaying the PN code of the specific  
5 BTS for the  $+64\text{Chip}+n\text{Chip}$  period among the PN codes received in the MS is received later than the PN code of the specific BTS as long as the  $+n\text{Chip}$  period, the delayed time due to the corresponding repeater itself previously stored in the DB is subtracted in the PDE from the time at which the PN code of  
10 the specific BTS is received in the MS via the repeater, to calculate the distance between the specific BTS and the MS positioned in an  $n$ th floor of a high-storied building.